

Ann M. Fitzgerald No. 1 (304) Well located on top map.

Meade District, Upshur County, W. Va.

By Cumberland and Allegheny Gas Company, Pittsburgh, Pa.

Located 4.45 mi. W. of 80° 10' and 3.55 mi. S. of 38° 55' - WC - Sago Quadrangle

Elevation 1910' L.

Permit Up - 94

Drilling commenced March 29, 1941; completed May 9, 1941.

Gas Well; volume, 300,000 cu. ft.; rock pressure 315 lbs in 48 hrs.

Fresh water at 118'; Coal at 155-160' and 447-452'

10" casing 219'; 8 1/2", 914'; 6 7/8", 1980'

Section based on samples from 8 to 2157' examined by G. Apocuri. According to the geologic map of Upshur County the well starts near the boundary between the eocensauagh and Allegheny. The elevation of the Lower Kittanning Coal by structure contour is about 1650 feet.

<u>Top</u>	<u>Bottom</u>	<u>Thickness</u>	<u>Pennsylvanian, 992 ± feet</u>
8	18	10	Siltstone, yellow
18	23	5	Shale, yellow, 80%; green siltstone, 40%; red shale, 10%
23	40	17	Sandstone, white, very fine, 50%; yellow and green siltstone, 50%
40	71	31	Sandstone, white, fine
71	83	12	Shale, gray
83	95	12	Shale, red, 75%; gray and black shale, 25%
95	105	10	Shale, gray
105	126	21	Sandstone, white, very fine.
126	146	20	Sandstone, white medium-to coarse - grained
146	152	6	Shale, gray
152	155	3	Shale, very dark gray
155	160	5	Coal (from driller's record)
160	173	13	Shale, very dark gray
173	181	8	Shale, nearly black, 50%; coal, 50%
181	213	32	Sandstone, brown, very fine, silty
213	215	2	Siltstone, very light gray
215	221	6	Sandstone, white, very fine, angular
221	230	9	Shale, black
230	235	5	Siltstone, light-gray, sandy, siltieritic
235	245	10	Shale, light-brown/silty
245	268	23	Sandstone, white, very fine
268	273	5	Shale, gray

<u>Top</u>	<u>Bottom</u>	<u>Thickness</u>	
273	284	11	Sandstone, white, fine
284	287	3	Siltstone light-gray, sandy, sideritic
287	321	34	Siltstone, gray to brown, mostly sandy
321	333	12	Sandstone, white to light-gray, fine to very fine
333	342	9	Sandstone, as above, 60%; gray siltstone, 40%
342	402	60	Sandstone, white, fine to very fine, sideritic
402	410	8	Sandstone, white, fine to very fine, 80%; gray siltstone with siderite spherulites, 20%
410	420	10	Shale, gray
420	447	27	Sandstone, white, fine
447	452	5	Coal and black shale (show of gas, 447')
452	470	18	Shale, gray
470	503	33	shale, gray, 70%; light-gray sandy siltstone, 30%
503	512	9	Sandstone, white, very fine
512	519	7	Siltstone, gray
519	529	7	Siltstone, gray
529	540	11	Sandstone, white, very fine, with some siderite and chlorite, 65%; gray shaly siltstone, 35%
540	552	12	Sandstone, white, very fine
552	567	15	Siltstone, gray, containing siderite
567	579	12	Shale, gray
579	614	35	Shale, dark-gray to very dark-gray
614	623	9	Shale, gray
623	630	7	Siltstone, very light-gray
630	675	45	Shale, gray (show of gas 662')
675	712	37	Sandstone, white, very fine; some large grains, 685-712'
712	739	27	Shale, dark-gray, with siderite
739	750	11	Sandstone, white, very fine
750	790	40	Shale, gray
790	796	6	Shale, very light brown, with siderite spherulites
796	827	31	Siltstone, gray
827	855	28	Shale, gray
855	872	17	Shale, light-brown, with siderite spherulites
872	900	28	Sandstone, white, very fine, partly silty
900	908	8	Sandstone, brown, silty, calcareous

<u>Top</u>	<u>Bottom</u>	<u>Thickness</u>	
908	919	11	Sandstone, white
919	925	6	Sandstone, gray, silty
925	931	6	Siltstone, gray, containing siderite
931	961	30	Shale, gray
961	970	9	Sandstone, white, very fine, 60%; gray silty shale, 40%
970	992	22	Sandstone, white, coarse to very coarse
<u>Mauch Chunk Group, 513 feet</u>			
992	1024	32	Shale, greenish-gray, calcareous
1024	1032	8	Shale, green, 75%; red shale, 25%
1032	1050	18	Shale, red, soft
1050	1060	30	Siltstone, green
1060	1105	25	Sandstone, green, very fine, micaceous
1105	1127	22	Shale, red
1127	1129	2	Sandstone, white, medium-grained
1129	1162	33	Siltstone, green, sandy
1162	1172	10	Sandstone, white, very fine
1172	1179	7	No samples
1179	1204	25	Shale, red
1204	1207	3	Limestone, light-gray, dolomitic
1207	1224	17	Shale, red
1224	1233	9	Limestone, light-brown, shaly
1233	1242	9	Limestone, gray to brownish, fossiliferous, 60%; gray calcareous shale, 40%
1242	1248	6	Shale, gray, thinly laminated; disintegrates in water
1248	1267	19	Limestone, brown, fossiliferous ("Little Lime")
1267	1284	17	Shale, gray to green
1284	1298	14	Shale, red
1298	1305	7	Shale, gray
<u>Greenbrier Limestone, 232 feet</u>			
1305	1357	52	Limestone, light-brown to nearly white
1357	1361	4	Limestone, brown
1361	1379	17	Limestone, brown, oolitic, sandy
1379	1407	28	Limestone, light-brown to nearly white; some oolites
<u>Throughout</u>			
1407	1415	8	Limestone, light-brown, slightly sandy

<u>Top</u>	<u>Bottom</u>	<u>Thickness</u>	
1415	1425	10	Limestone, light-brown, oolitic and very sandy
1425	1440	15	Limestone, white, very sandy, dolomitic
1440	1443	3	Limestone, light-brown, oolitic, slightly sandy, 30%; green, calcareous shale and siltstone, 50%
1443	1452	9	Limestone, light-brown, very sandy and oolitic
1452	1478	26	Limestone, nearly white, oolitic; some coarse sand grains, 1465-1470'
1478	1492	14	Limestone, light-brown, very sandy, oolitic
1492	1507	15	Sandstone, very fine, calcareous, 60%; green silty shale, 40%
1507	1527	20	Limestone, light-brown
1527	1537	10	Limestone, light-brown, dolomitic; a little white to green calcareous sandstone near bottom

Lower Mississippian and Upper Devonian, 630Feet

1537	1556	19	Sandstone, green, very fine, silty, micaceous
1556	1571	15	Siltstone, green and red, 75%; red, green and gray shales, 20%; coarse quartz grains, 5%
1571	1591	20	Siltstone, green and light-gray
1591	1598	7	Siltstone, green, 60%; gray shale, 40%
1598	1602	4	Siltstone, white, very fine
1602	1627	25	Siltstone, gray to green, sandy (1598-1627' is described in record as Gants Sand)
1627	1637	10	Shale, gray
1637	1648	11	Siltstone, green
1648	1656	8	Shale, red, silty
1656	1661	5	Shale, red and green, sandy
1661	1670	9	Shale, red
1670	1685	15	Siltstone, white to green, sandy, 60%; red shale, 35%; gray shale, 5%
1685	1695	10	Shale, red and gray, 60%; green siltstone, 40%
1695	1700	5	Siltstone, light-gray, sandy
1700	1706	6	Siltstone, red
1706	1720	14	Shale, red; some green shale and siltstone
1720	1723	3	Shale, gray
1723	1735	12	Shale, red
1735	1744	9	Shale, red, 50%; brown siltstone, 50%

<u>Top</u>	<u>Bottom</u>	<u>Thickness</u>	
1744	1750	6	Siltstone, brown and green
1750	1758	8	Siltstone, brown
1758	1767	9	Sandstone, light-gray, fine, micaceous
1767	1774	7	Shale and siltstone, green, sandy
1774	1783	9	Siltstone, brown, 90%
1783	1790	7	Siltstone, gray to green, sandy
1790	1941	151	Shale and siltstone, red; some samples contain considerable amounts of gray and green shale and siltstone
1941	1948	7	Siltstone and shale, light-green
1948	1982	34	Shale, gray
1982	2012	30	Sandstone, greenish, very fine with some coarser quartz grains
2012	2039	27	Siltstone, red, with some green
2039	2048	9	Sandstone, white, very fine
2048	2062	14	Sandstone, white, medium-to coarse-grained; contains large fragments of clear and milky quartz
2062	2094	32	Shale, gray
2094	2101	7	Siltstone, brown, sandy, 60%; gray shale, 40%
2101	2120	19	Shale, gray; also some green siltstone
2120	2125	5	Siltstone, red
2125	2142	17	Shale, gray
2142	2148	6	Sandstone, brown, silty; contains some large grains of quartz
2148	2157	9	Shale, gray
	2157	-	Total depth